



**National Aeronautics  
and Space Administration**

**MAY 13, 1997  
AN 97-OSS-02**

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# **ANNOUNCEMENT**

## **ASCA GUEST OBSERVER PROGRAM CYCLE 6**

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**Proposals Due:**

**AUGUST 13, 1997  
AN 97-OSS-02**

# **ASCA GUEST OBSERVER PROGRAM**

## **Cycle 6**

Release Date: May 13, 1997  
Proposal Due Date: August 13, 1997

Office of Space Science  
National Aeronautics and Space Administration  
Washington, DC 20546-0001

## ASCA GUEST OBSERVER PROGRAM

This Announcement solicits observing proposals for participation in the National Aeronautics and Space Administration (NASA) Office of Space Science program to acquire and analyze scientific data from the ASCA satellite (formerly the Astro-D satellite). The ASCA mission is a cooperative X-ray astronomy program between the United States and Japan<sup>1</sup>. ASCA was launched February 20, 1993, and the initial performance verification (PV) phase ended in October 1993. During the ongoing science operation phase, 15 percent of the observing time is allocated to the United States, and an additional 25 percent is allocated to joint U.S./Japan investigations.

This Announcement is the sixth announcement for the ASCA Guest Observer Program and solicits proposals for observations during the U.S. and collaborative U.S./Japan observing time that will begin late in December 1997 and last for approximately one year. Further opportunities to propose are expected at regular intervals. Letters of Intent to Propose are not required.

The intent of this program is to enhance U.S.-Japanese scientific cooperation in keeping with the bilateral agreement between the U.S. and Japan. Only investigators affiliated with U.S. institutions may propose. Participation is open to all categories of organizations, including educational institutions, NASA Centers, profit and not-for-profit organizations, and other Government agencies. Proposals may be submitted at any time before the proposal due date. Proposals received after that date will be held for the next review cycle. The proposal review process will be directed by the cognizant discipline scientist at the NASA Office of Space Science. Proposals will be evaluated by scientific peer-review panels and other national and international review committees with a goal of announcing selection by December 1997. NASA expects 60-90 investigations to be chosen consisting of a mixture of large, medium, and small programs.

Investigators whose observing proposals are chosen will receive the data which results from their proposal in a form suitable for analysis. One year later, the data will be placed in a public archive for other interested investigators.

Interested proposers should be aware that the Announcement for Cycle 6 is only for the selection of observing time for ASCA; no funds are available for support of selected proposals through this Announcement. Budgets are not to be submitted in response to this solicitation. Observers with proposals accepted through this Announcement, as well as researchers using public archival ASCA data involving no new observations, may submit funding proposals to the NASA Astrophysics Data Program (ADP), a formal announcement for which will be made in late 1997.

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<sup>1</sup> "Asuka," which means "Flying Bird," is pronounced As'ka, which led to the pun ASCA, standing for 'Advanced Satellite for Cosmology and Astrophysics.'

Further details relevant to this program are included in the Appendices to this Announcement. This Announcement, its Appendices, and supporting technical documents may be downloaded directly via the World Wide Web, or they may be obtained via anonymous file transfer protocol (ftp), at the addresses given below. Individuals not having access to the Internet may request paper copies of the Announcement and reference documents at the address given below.

IDENTIFIER:	AN 97-OSS-02
PROPOSAL DUE DATE:	August 13, 1997
NUMBER REQUIRED:	15 copies, including signed original
SUBMIT PROPOSALS TO:	ASCA Guest Observer Program Code 660.2 Building 2, Room 250 Goddard Space Flight Center National Aeronautics and Space Administration Greenbelt, MD 20771-0001 USA
OBTAIN ADDITIONAL PROGRAMMATIC INFORMATION FROM:	Dr. Paul Hertz Research Program Management Division Code SR Office of Space Science National Aeronautics and Space Administration Washington, DC 20546-0001 TEL: (202) 358-0351, FAX: (202) 358-3097 paul.hertz@hq.nasa.gov
DIRECT ASCA TECHNICAL QUESTIONS TO:	Dr. Nicholas E. White U.S. ASCA Project Scientist ASCA Guest Observer Facility Code 662 Goddard Space Flight Center National Aeronautics and Space Administration Greenbelt, MD 20771-0001 TEL: (301) 286-8443, FAX: (301) 286-1684 white@adhoc.gsfc.nasa.gov
REQUEST PRINTED APPENDICES AND TECHNICAL DESCRIPTION FROM:	ASCA Guest Observer Facility Code 660.2 Goddard Space Flight Center National Aeronautics and Space Administration Greenbelt, MD 20771-0001 TEL: (301) 286-2291, FAX: (301) 286-1684 ascanra@athena.gsfc.nasa.gov
RETRIEVE ANNOUNCEMENT AND APPENDICES ELECTRONICALLY FROM:	<a href="ftp://legacy.gsfc.nasa.gov/asca/nra_info/">ftp://legacy.gsfc.nasa.gov/asca/nra_info/</a> <a href="http://heasarc.gsfc.nasa.gov/docs/asca/ascagof.html">http://heasarc.gsfc.nasa.gov/docs/asca/ascagof.html</a> <a href="http://www.hq.nasa.gov/office/oss/">http://www.hq.nasa.gov/office/oss/</a> , Research Opportunities

Your interest and cooperation in participating in the ASCA Guest Observer Program are appreciated.

Alan N. Bunner  
Science Program Director  
Structure and Evolution of the Universe  
Office of Space Science

ASCA GUEST OBSERVER PROGRAM  
Cycle 6

LIST OF APPENDICES

- A. ASCA Guest Observer Program Description
- B. Additional Information Regarding Proposal Submission, Evaluation, Selection, and Implementation
- C. Proposal Forms and Instructions for Electronic Submission

## **ASCA GUEST OBSERVER PROGRAM DESCRIPTION**

### **1. MISSION OVERVIEW**

ASCA (Advanced Satellite for Cosmology and Astrophysics; formerly Astro-D) is Japan's fourth X-ray astronomy mission and the second for which the U.S. provided a significant part of the scientific payload. Its four large-area telescopes focus X-rays from a wide energy range onto a pair each of X-ray sensitive Charge-Coupled Devices (CCD's) and imaging Gas Scintillation Proportional Counters (GSPC's). ASCA is examining a variety of X-ray sources with moderate spatial resolution and spectral resolution with particular emphasis on the iron K band.

The two identical X-ray CCD cameras on board ASCA are known as the Solid-state Imaging Spectrometers (SIS) and were provided by a hardware team from the Massachusetts Institute of Technology (MIT), Osaka University, and Japan's Institute of Space and Astronautical Science (ISAS). Each CCD camera head is based upon four 420 x 422 pixel MIT Lincoln Laboratory CCD chips abutted side by side, with four preamplifiers, front-side illuminated. The field of view of each camera is 22 x 22 arcminutes.

Each Gas Imaging Spectrometer (GIS) is a Xenon-filled imaging gas scintillation proportional counter; these two instruments were provided by the University of Tokyo and ISAS. The GIS complements the SIS: above the Xenon L edge (~ 5 keV), the GIS has a detection efficiency that is both greater than the SIS and falls off less rapidly. The GIS, with a circular field of view of radius 25 arc minutes, observes about 4 times the area covered by the SIS.

The high throughput X-ray Telescopes (XRT's) utilize multiply-nested, thin foil, conical mirrors. The XRT's were supplied by the Goddard Space Flight Center (GSFC), Nagoya University, and ISAS, and provide a spatial resolution of ~1.5 arcminutes (half-power radius) and a broad bandpass 0.1-10 keV.

ASCA is the first X-ray imaging mission operating between 0.5 and 12 keV with high spectral resolution (8% and 2% at 5.9 keV for the GIS and SIS detectors, respectively). It observes typically one or two sources per day. These combined capabilities enable a diverse and exciting program of astronomical research.

### **2. OPERATION**

ASCA weighs 420 kg and was launched February 20, 1993, from Kagoshima Space Center in Japan. An ISAS M-3S-II rocket placed ASCA into an approximately circular orbit of inclination 31.5 degrees, at an altitude between 500 and 600 km. Direct contact between the satellite and the

ground stations is possible for 10 of the 15 orbits per day, 5 from Japan and 5 from Australia. Although the designed lifetime is 1 year, the mission is expected to last about 5 years, generating about 200 Mbytes of raw data each day. The final mission archive will thus contain on the order of 300 Gbytes of raw data.

ASCA operations are managed by Japanese astronomers and engineers at ISAS. They schedule observations, direct the satellite, collect the data, and monitor the health of the spacecraft and its payload. All data from ASCA are copied and sent to the U.S. ASCA Guest Observer Facility at the NASA Goddard Space Flight Center. There they are processed, distributed to U.S. Guest Observers, and archived.

### **3. MISSION PHASES**

Since the conclusion of the initial “Performance Verification” (PV) phase in October 1993, for which the data belong to the ASCA mission team, observing time on ASCA has been open to competitive proposals. The observing time is apportioned as follows:

- 15 percent for U.S. investigations,
- 25 percent for U.S./Japan collaborative investigations,
- 50 percent for Japanese investigations, and
- 10 percent for ESA/Japan collaborative investigations.

This sixth Announcement covers one year of ASCA observations. Observations selected in this round commence late in December 1997. U.S. observers can propose either for U.S.-only time or for the U.S./Japan collaborative time. A U.S. investigator bidding specifically for U.S./Japan time must arrange for a Japanese collaborator. Conversely, any U.S. investigator with a Japanese collaborator must specifically bid for U.S./Japan time. If the U.S. investigator expresses no preference between a U.S. only observation and a collaborative U.S./Japan one, Japanese collaborators may be assigned.

### **4. THE ASCA GUEST OBSERVER FACILITY**

Raw telemetry (ordered coherently with duplicated telemetry removed), together with satellite attitude and position information, is sent from Japan to the ASCA Guest Observer Facility (GOF) at the Goddard Space Flight Center. The GOF will distribute the data (electronically, on tape, or on compact disk) and support U.S. Guest Observers with their analysis of these data. The ASCA GOF is a part of the Office of Guest Investigator Programs at the Laboratory of High Energy Astrophysics, NASA Goddard Space Flight Center, in Greenbelt, Maryland. The ASCA GOF can also provide additional technical information, if needed, for the preparation of proposals. In addition, it: receives, validates, and distributes data and calibrations; provides data analysis software; provides expert help and documentation; and creates the ASCA archive. For more details about the ASCA observing program or the ASCA instruments, see the ASCA Technical Description, available as described in Appendix B, Section 2.D.



## **ADDITIONAL INFORMATION REGARDING PROPOSAL SUBMISSION, EVALUATION, SELECTION, AND IMPLEMENTATION**

### **1. PROPOSAL PREPARATION AND SUBMISSION**

#### **A. General Observing Parameters**

The guest observer phase of the ASCA mission began on October 15, 1993. Investigators whose observing proposals are chosen will receive the data which results from their proposal in a form suitable for analysis. One year later, the data will be placed in a public archive for other interested investigators.

ASCA typically performs 1-2 pointings per day. The number of pointings is limited by the long (1-2 hour) settling time required by the attitude control system after a maneuver to a new pointing position. In order to maintain a satellite observing efficiency around 50 percent, this means that the minimum allowable observing time on a particular target is 20,000 seconds. Proposals must take this into account and justify the need for an exposure of this (or longer) duration. In some well justified circumstances, shorter observations (10,000 seconds) might be considered. Also, for targets having limited spatial extent ( $< 1$  degree), it will be possible to specify a "raster" observation: multiple brief pointings at slightly offset locations. The total time on a specific region of sky must still exceed the minimum.

There are no restrictions regarding the amount of observing time or the number of targets requested in guest observer proposals other than those imposed by satellite operations (see the ASCA Technical Description, available as described in Section 2.D. of this Appendix). Proposals may be submitted for a single target with a relatively short observation time, or for a larger program involving multiple targets or longer observing time. We expect that some mix of large, medium, and small programs will be selected, and that about 50-70 new observations will be selected from proposals received in response to this Announcement. All proposals will be reviewed together in the same peer review. Given the maturity of the ASCA program, for the current and future observing cycles we anticipate a stronger emphasis will be placed on longer observations and larger programs, especially those taking advantage of ASCA's unique capability for imaging and spectroscopy in the 4-10 keV band. No observing time will be set aside specifically for large programs, however, we expect that an increasingly larger fraction of the U.S. share of ASCA observing time will be devoted to large programs.

Time-critical observations, i.e., observations with scheduling constraints, impose a particular burden on ASCA mission planning. See Section 3.C. of this Appendix for details. (For further discussion of such observations, see Section 2 of the ASCA Technical Description, available as

described in Section 2.D. of this Appendix). In particular, for “short-lived” phenomena, i.e., phenomena where timing within a spacecraft orbit matters, the observability of an event may only be assessed a few weeks prior to scheduling. Too large a percentage of such time-critical observations would compromise the ability of the mission planning and operations team to effect properly the full set of requested observations. Because all time-critical observations drive the scheduling process and, therefore, must receive highest scheduling and scientific priority, their total share must be kept relatively small. For ASCA, about 5 percent of the time will be made available for truly time-critical observations (observations requiring a specific day, such as coordinated observations). An additional five percent will be made available for less constrained time-critical observations, such as regular visits to a source or observations that require a specific orbital phase.

The first 7 months of the mission were used for calibration and performance verification (PV); the subsequent 4 years were used for observations proposed in the first five cycles of Guest Observations. During this time, stars, X-ray binaries, supernova remnants, galaxies, clusters of galaxies, active galactic nuclei, the X-ray background, gamma ray burst candidates, and solar system objects have been observed. Sources observed during PV and Cycles 1-5 are maintained in a database by the ASCA GOF. Guest investigators should check whether their targets of interest have been observed; if this is the case, investigators must justify the need for additional observations. Tools for searching the ASCA observation database are available via the World Wide Web from the ASCA GOF homepage at

< <http://heasarc.gsfc.nasa.gov/docs/asca/ascagof.html> >.

## B. Who May Propose

Every ASCA proposal must identify a Principal Investigator (PI). The intent of this program is to enhance U.S.-Japanese scientific cooperation, in keeping with the bilateral agreement between the U.S. and Japan. Thus, only individuals affiliated with U.S. institutions and located in the U.S. are eligible to propose for ASCA guest investigations through NASA. The requirement of affiliation with a U.S. institution does not extend to Co-Investigators.

Proposers have three choices. They may specify (on the General Form) whether the observing time is to be taken from the 15 percent assigned specifically to the U.S. or whether collaborative time is requested. If collaborative time is requested, both the U.S. and Japanese investigators must be identified. Conversely, if the proposal contains a Japanese Co-Investigator, the proposal must request collaborative time. Proposers may also specify “no preference” between U.S. time and U.S./Japan time, in which case Japanese Co-Investigators may be assigned. If a proposal for the U.S./Japan block of time is accepted, the observation’s time is taken from that block.

The purpose of the block of observing time assigned to U.S.-Japan scientific collaboration is to maximize the scientific return for the ASCA mission and to create an opportunity for cooperative research between U.S. and Japanese scientists. A proposal should be submitted only to the

ASCA program of the country of the PI. Specifically, collaborative proposals should be submitted to either the U.S. or Japan, but not to both.

Similar proposals with similar source lists involving essentially the same consortium of investigators should not be submitted to different national programs even if the formal PI's are explicitly different. A consortium of investigators from the U.S. and Japan may choose to split a large observing program and submit to different agencies, but in doing so they should also, in the spirit of these rules, split their source lists; each individual proposal submitted to each agency must be capable of being evaluated on its own merit.

Following selection, the mission timeline team will deal only with the person identified as Principal Investigator or lead Co-Investigator. It will be their duty to respond to any questions about detector usage or observational modes.

## **2. PROPOSAL FORMAT AND CONTENT**

### **A. Overview**

The overall proposal review process will be directed by the cognizant discipline scientist at NASA Headquarters, Office of Space Science. The scientific and technical merits of the proposed investigation will be reviewed, including the appropriateness of using ASCA to address the scientific objectives and its relevance to furthering our understanding of high energy astrophysical processes. Using the criteria defined in Section 3 of this Appendix, a panel of scientific peers will evaluate all submitted proposals. The list of targets provisionally chosen for observing will be consolidated with the Japanese program by a U.S./Japan merging committee. Following the merging, observers whose proposals are chosen will be notified by letter.

### **B. Proposal Content**

The science section must include a standard Cover Page, a General Form, the scientific justification (as described below), a Target Summary form, and, optionally, Target Constraints and Target Remarks forms. The forms and instructions for submitting them electronically can be found in Appendix C. The information in the forms will be entered into a data base that will be used in cataloging and evaluating proposals. The forms must be completed in the format presented.

The abstract on the Cover Page should be limited to 800 characters, including spaces between words, with no embedded commands, i.e., flat ASCII only. The abstract will be truncated automatically at 800 characters when entered into the data base. Note that the abstracts and target lists for approved observations will be made available to the scientific community in printed and electronic form.

Proposers should also note that the pointing positions given in the Target Summary Form will be used to point the spacecraft and that care must be exercised in stating these positions. Slight pointing errors can seriously degrade the data from an observation. *Positions must be stated in equinox/epoch 2000.*\

The Target Number (on the Target Summary form) refers to the proposer's priority of that particular pointing within a proposed investigation involving multiple pointings. If it is necessary for the peer review committee to reduce the time allocated to a proposal, an attempt will be made to preserve the highest priority observations.

The scientific justification must consist of no more than four pages. Of these, no more than three can be devoted to proposal text, and no more than two to tables and figures. The justification provides the following information and is to be structured as follows:

- (1) *Scientific Problem.* State clearly the scientific problem to be addressed, with relevant scientific background and references to previous work. Show how the proposed ASCA observations and data analysis techniques are expected to address the problem and advance prior knowledge. Justify the use of ASCA observations by demonstrating how the observations use the unique strengths and capabilities of ASCA. (Suggested text length: two pages)
- (2) *Technical Feasibility.* Show how the proposed ASCA exposure time makes possible the fulfillment of the scientific objectives. State how targets or pointing locations were selected. List assumptions about source intensity, surface brightness, and spectrum. Estimates of both count rates and total counts needed for the investigation must be provided. At a minimum, PIMMS (Portable Interactive Multi-Mission Simulator) should be used to estimate count rates; XSPEC can be used to show how the data will be analyzed. Both PIMMS and XSPEC are available from the ASCA GOF through the homepage. Note that it is in the proposer's best interest to provide enough detail to allow a reviewer to understand his/her target brightness assumptions well enough to reproduce the count estimates. The proposer should demonstrate that those estimated counts are sufficient to extract the desired astrophysics from the observation. Whether the feasibility of a proposal is demonstrated or not, the ASCA GOF staff will subject the proposal to a thorough feasibility assessment. (Suggested text length: one page)
- (3) *Previous Relevant Observations.* List all previous ASCA observations, regardless of principal investigator, that are directly relevant to the proposed investigation.

### C. Page Restrictions and Quantity

Because of the large number of proposals anticipated in response to this NRA, we will enforce strict page limits. The scientific justification should consist of not more than four pages, of which a maximum of two pages may be figures and a maximum of three may be devoted to text. Type should not be smaller than 10 point (standard typewriter size print), and spacing between lines should not be less than 10 points. These four pages and the forms comprise the scientific

proposal and should provide the U.S. reviewers and the merging committee with all information necessary for making a complete evaluation. *Reviewers will base their review only on the portion of each proposal that complies with the page limits.* The General Form must be signed by an institutional official who is authorized to certify institutional support and sponsorship of the investigation.

Proposal Contents		
SECTION	PAGE LIMIT	COMMENTS
Cover Page	1	no other cover accepted
General Form	1	
Target Summary form	1	or more, as needed
Target Constraints form	1	optional
Target Remarks form	1	optional
Scientific Problem and Technical Feasibility	4	includes text, figures, tables, and references
Vitae of key investigator	1	optional

*Double-sided printing is strongly encouraged but not required.* Fifteen (15) copies, including the signed original, of the justification and forms that comprise the proposal, stapled together into one document, should be sent to:

ASCA Guest Observer Program  
Code 660.2  
Building 2, Room 250  
Goddard Space Flight Center  
National Aeronautics and Space Administration  
Greenbelt, MD 20771-0001  
USA

#### D. Technical Information Resource

The ASCA Technical Description (Appendix F of previous ASCA Guest Observer Program announcements) is available from the ASCA Guest Observer Facility by direct download via the World Wide Web or by anonymous file transfer protocol (ftp) at the addresses given in the Announcement. Technical questions concerning the ASCA mission and requests for assistance in proposal submission may be addressed to Dr. Nicholas E. White, U.S. ASCA Project Scientist, at:

Dr. Nicholas E. White  
ASCA Guest Observer Facility  
Code 662  
Goddard Space Flight Center  
National Aeronautics and Space Administration  
Greenbelt, MD 20771-0001  
TEL: (301) 286-8443, FAX: (301) 286-1684  
white@adhoc.gsfc.nasa.gov

## E. Electronic Forms Submission

All proposers requesting observing time are required to submit their Cover Page, General Form, and Target Summary form (with Target Constraints form and Target Remarks form, if necessary) electronically. These forms may be found in Appendix C. Proposers who do not have access to electronic communications should contact Dr. White at the above address at least two weeks before the proposal due date. Electronic submission facilitates efficient proposal processing and reduces the likelihood of the introduction of transcription errors into the proposal and observation databases. For electronic forms submission, the ASCA Guest Observer Facility is making available Remote Proposal Software (RPS), which is the easiest method for a proposer to comply with the electronic submission requirement. Access to RPS is described in Appendix C.

## 3. PROPOSAL EVALUATION, SELECTION, AND IMPLEMENTATION

### A. Proposal Evaluation Criteria

The following are the criteria for the evaluation of proposals submitted in response to this Announcement and are shown in descending order of priority.

1. The overall scientific merit of the investigation.
2. The suitability of using the ASCA observatory and data products for the proposed investigation, the degree to which the investigation uses ASCA's unique capabilities and recognizes ASCA observing constraints, the feasibility of accomplishing the objectives of the investigation within the time proposed, the degree to which the proposal satisfies ASCA observational constraints, and the feasibility of the analysis techniques.
3. The relevance of the proposed research to NASA's Space Science program.
4. The competence and relevant experience of the principal investigator and any collaborators as an indication of their ability to carry the investigation to a successful conclusion, including the timely publication of refereed scientific journal papers.

### B. Proposal Evaluation and Selection.

There are two steps in the evaluation of ASCA observation proposals submitted in response to this Announcement. First, a NASA peer review panel will review them for scientific merit, technical feasibility with respect to spacecraft and observational constraints, and duplication with existing observations or other proposals submitted in response to this Announcement by U.S. investigators. Second, a U.S./Japan merging committee, comprised of members of the U.S. and Japan ASCA Project team and representatives of the U.S. Guest Observer community, will eliminate the duplication between targets submitted to the U.S. and Japan programs.

The U.S. and Japan define their national proposal lists independently. In constructing these lists, proposals can be placed into three groups: those explicitly requesting collaborative time (which are required to have both U.S. and Japanese investigators); those explicitly requesting time from a national program; and those which have no preference between a U.S.-only investigation and a U.S.-Japan collaboration.

The task of the ASCA merging committee is to combine the two national observing proposal sets into the ASCA observing program. This observing program should be devoid of unnecessary duplications among the nationally defined observing programs. The removal of redundant proposals occurs in such a way that collaboration is emphasized. Only for overlapping targets for which one of the two PI's specifically requests time from their respective national program, or when a highly ranked proposal from one national review overlaps with a low ranked proposal from the other, might a selection be made between the two. This selection will be made using the priority assigned by the national review committees. The most up-to-date set of guidelines used by the merging committee can be viewed on the World Wide Web at

< <http://heasarc.gsfc.nasa.gov/docs/asca/charter.html> >.

There are three ways by which a target can be placed into the pool of collaborative U.S./Japan observations. First, the proposal can be explicitly collaborative, with U.S. and Japanese investigators specifically named. Such proposals can enter the collaborative pool from either the U.S. or Japanese programs, depending on the nationality of the Principal Investigator. Second, a merging can occur between a U.S. and a Japanese team who have successfully proposed for an observation of the same target. In this case, the target is placed in the collaborative list with the higher of the two national priorities, and the longer observing time. Third, if additional collaborative observing time is available beyond that requested in the explicitly collaborative and merged proposals, a U.S. target, the rank of whose proposal places it outside of the 15 percent time share for U.S. proposals, can be placed into the collaborative pool, and Japanese collaborators assigned to it. For proposals that are merged, the Principal Investigator on one of the proposals is selected as the Prime Principal Investigator (PPI); the Principal Investigator on the other becomes the Co-Principal Investigator (Co-PI). For those assigned Japanese collaborators, the original PI will serve as PPI, and an assigned collaborator is the Co-PI. While both teams receive access to the data and are encouraged to collaborate, the PPI has responsibility for planning the observation and coordinating the data analysis activities. The PPI also determines whether additional collaborators beyond those named in the two proposals may collaborate in the investigation.

Remember that the available observing time is divided into three categories: Japan only (60 percent, including Japan/ESA collaborations), U.S. only (15 percent), and U.S./Japan collaborative (25 percent). Enough proposals will be approved in the U.S. and Japan reviews to fully cover the respective country's fraction of the nominal observing time (40 percent for the U.S.; 85 percent for Japan). This will cover the reduction of observing time due to the merging process and keep a minimal oversubscription (about 20 percent) to ease the scheduling process.

All observations will be grouped into one of three categories: 40 percent of the nominal observing time for targets with highest priority (A), 60 percent of the nominal observing time for targets with medium priority (B), and the balance (approximately 20 percent) for targets with low priority (C). While it is the responsibility of the national review committees to assign these observing priorities, the final observing priority is assigned by the merging committee. A change to the priority of an observation by the merging committee occurs only in order to maintain the proper balance among the various priorities and observation pools.

From our experience with the first five solicitations, we expect a substantial oversubscription of ASCA observing time. With the above scheme, most of the reduction in the oversubscription occurs at the national level. The most important criterion for the proposal assessment of the national proposal evaluation committees is the scientific merit of the proposed research. However, the feasibility of the observations, as well as observational constraints that may overburden the ASCA mission planning, also figure in the selection. Observing priorities are solely assigned by the national proposal selection committees; note in particular that time-critical proposals, i.e., proposed observations with additional scheduling constraints (see the ASCA Technical Description, available as described in Section 2.D. of this Appendix), must receive priority A or B.

### C. Implementation

All of the proposals approved by the merging committee will be placed into an observation database. It is likely that observational details, such as SIS mode, will need to be worked out with a PI prior to the observation. Each observation will be assigned a unique identifying (sequence) number. It is the responsibility of the ASCA mission planning and operations team at ISAS to produce a mission timeline out of all approved observation requests. The process of mission timeline generation is split into two parts. First, a long term mission timeline (LMTL), covering about six months, will be generated; and second, about 2 weeks prior to the execution of the observations, a short term mission timeline (SMTL) will be produced on the basis of the LMTL. The SMTL is used for the generation of the required spacecraft commands.

Note that targets are initially scheduled only to within a 10-day period. Thus, any observations requiring stronger time constraints should be marked “time critical.”

ISAS will make its best effort to schedule all priority A and B observations. All A and B observations that were not scheduled, or that were scheduled but not executed for some reason, will automatically be carried over into the observing program of the next observing season. Priority C observations are treated in the timeline as “fillers.” They are subject to replacement by a higher priority target, a calibration observation, or a Target of Opportunity Observation at any time. Priority C targets are *not* carried over to the next observing cycle and, therefore, must be repropose.



If an observation is cut short by mission timeline or other constraints, its priority determines the minimum observing time after which it is considered complete. Priority A targets are not considered complete until they have been observed for 95 percent of the requested time. Priority B observations are considered complete after they have been observed for 70 percent of the requested time. Priority C observations are performed on a best-effort basis. These completeness criteria do not apply to time-critical observations.

Guest investigators should also be aware that observations of their targets will, under most circumstances, be carried out contiguously: once an observation begins, the satellite will not be moved until the observation has been completed. Some exceptions are observations that specifically request discontinuity, for monitoring or phase coverage, and observations requiring use of high bit rate telemetry.

Investigators whose proposals are chosen will receive the data which results from their proposal in a form suitable for scientific analysis. One year later, the data will be placed in a public archive and, thus, will be available to other interested investigators.

#### **4. SCHEDULE**

Included below is the schedule for the review and selection of proposals for this sixth episode of U.S. observing time on ASCA. Note that the dates of events planned beyond the proposal due date are subject to change.

DATE	EVENT
May 13,1997	Announcement Release
August 13,1997	Proposals due
October 1997	U.S. peer review
November 1997	U.S./Japan merging committee review
December 1, 1997	Selections announced
Late December 1997	Cycle 6 observations begin

Proposals may be submitted at any time before the proposal due date; those received after that date will be held for the next review cycle, planned for approximately one year after the present cycle.

## **PROPOSAL FORMS AND INSTRUCTIONS FOR ELECTRONIC SUBMISSION**

In an effort to simplify the proposal submission process, the RPS (Remote Proposal Submission) software has been redesigned. Two versions of the new RPS exist: an automated E-mail submission system and a World Wide Web (WWW) form-based system. Both are described briefly below.

The automated E-mail system is an E-mail server that uses a few basic commands to process a user's request. The user starts the process by submitting a blank E-mail request to < rps@legacy.gsfc.nasa.gov >. The blank request returns the help page which contains instructions and examples to obtain the blank forms, submit the final electronic version, etc. The blank form is ASCII text, so any text editor may be used to enter values. The entries are name:value entries; the order of the text is, therefore, immaterial. Once the form has been edited, it may be E-mailed to the above E-mail address with one of the following options specified:

- |        |   |
|--------|---|
| Verify | This is the default option (not submit). Some range checking is done and errors are flagged for the user. |
| Submit | Submits the form for verification and, if no errors are found, sends the form to the proposal database.   |
| Latex  | This returns a LaTeX version of the form.   |

As RPS serves multiple missions, the user should take care to specify ASCA. This is done by including in the E-mail message <project=asca>.

The second RPS tool is the WWW form. The Web is a stateless server, so it functions in a manner similar to that of the automated E-mail server. The user must always 'submit' an action to the server to obtain or to update a result. The overall appearance of the browser form is similar to the paper forms. This appearance was retained largely for convenience, although the layout of the form may evolve with use over upcoming proposal periods. On-line help is available as with most WWW applications.

The URL for the WWW form is:

< <http://legacy.gsfc.nasa.gov/cgi-bin/RPS/ASCA/RPS.pl> >.

Currently, only X-based and Macintosh-based platforms are supported; *PC-based platforms are not supported*. As these limitations are removed by upgrades to the server, RPS will be available for additional platforms. See the RPS help page for more details.

Questions about running RPS should be addressed to the RPS help line at

< rpshelp@athena.gsfc.nasa.gov >.